DECISION SUMMARY

1.0 INTRODUCTION

Based on site history and results of environmental investigations, the Air Force proposes no further action at Environmental Restoration Program (ERP) Site LF-24 (Site 24) at Beale Air Force Base (AFB), California. This decision document presents the Site 24 characterization data to support the no further action decision.

This no further response action planned (NFRAP) decision pertains only to the closure of historic ERP Site 24 and certifies only that practices conducted at the site prior to 1984 do not warrant further investigation or action. Beale AFB has committed to conducting investigations and implementing appropriate corrective actions due to recent and current management practices at the area, as part of its environmental compliance program. This NFRAP decision, therefore, only pertains to prior actions and the discussion contained herein is with respect to historic ERP Site 24.

In addition to presenting results of previous investigations (Section 2.0), this document presents the results of a recent remedial investigation (RI) at Site 24 (Appendix A), a screening level human health and ecological risk assessment (Section 3.0 and Appendix B), and a water resource evaluation (Appendix C).

1.1 Site Name, Location, and Description

Site 24, former Landfill No. 4, is located east of F Street and south of Gavin Mandery Drive, in the southwest portion of Beale AFB near the Historic Prisoner of War Cells. The site consists of approximately 8.5 acres of grassland and asphalt-covered terrain with 2- to 6-foot debris piles. The asphalt is old and degraded and has been removed in the vicinity of the landfill trenches (CH2M HILL, 2002). See Figure 1-1 for the location of Site 24 within Beale AFB.

1.1.1 Adjacent Land Uses

The primary land use surrounding Beale AFB is agricultural; 85% of the surrounding land is designated as an Exclusive Agricultural Zone. Land use at Site 24 is designated for recreational (open space)/industrial (RCRA Closure Required) use in accordance with the *Beale AFB Management Action Plan* (Bechtel, S., 2004).

1.1.2 Nearby Population

Beale AFB is located in a sparsely populated area of northern California approximately 10 miles east of Marysville, California, and 45 miles north of Sacramento. The employees, the residents of military housing, and people residing in the predominantly agricultural land immediately surrounding the base are the nearest populations. Base housing areas exist approximately 3.5 miles east of Site 24.

1.1.3 Surface and Groundwater Resources

Two north-south-trending partially filled landfill trenches measuring approximately 850 feet long by 35 feet wide are located on the west side of the site (Figure 1-1). The trenches are partially

filled with soil and a small volume of construction waste (CH2M HILL, 2002). The trenches retain water in the rainy season. An ephemeral pond forms in the western trench and is classified as a seasonal wetland (Jones & Stokes, 2001). Although the trenches have been partially filled, some areas remain approximately 8 feet below ground surface (bgs). Trees are growing in trenches that are not completely filled. Soil, asphalt, and piles of mixed debris are also located near and within the trenches.

Three main drainage ditches convey surface runoff south across and adjacent to the site (Figure 1-1). The westernmost drainage ditch is adjacent to the site, west of F Street. A drainage ditch is located west of the westernmost landfill trench. Another drainage ditch parallels the east side of F Street. Several smaller drainage channels in the southern portion of Site 24 converge east of the intersection of F and 2nd Streets. Drainage from the site flows through a culvert on the south end of Site 24 near the intersection of 2nd and F Streets toward Hutchinson Creek. Water that enters Hutchinson Creek flows toward the Feather River (CH2M HILL, 2002).

Groundwater depth at Site 24 is approximately 53 feet bgs, and direction of groundwater flow is west-northwest (CH2M HILL, 2002).

1.1.4 Surface and Subsurface Features

Site 24 contains debris piles and degraded asphalt roads. The site is surrounded by grassland with sparse woodland oak trees. Two open trenches occasionally held water as runoff from rain, forming ephemeral ponds. During 2001, the eastern trench was filled in with soil during grading operations at the site. Only the western trench remains.

1.2 Site History and Enforcement Activities

1.2.1 Site History and Operations

During the 1940s, Site 24 was used for vehicle storage and maintenance. Trenches and disturbed/ stained soil were evident in aerial photographs dating from 1952. During the 1960s and early 1970s, the trenches were filled with general refuse and construction debris. Wastes were burned to reduce the volume of refuse and to control rodent populations. By 1977, two trenches were partially filled and covered (Radian International, 1999).

Since 1994, the area has been used as a temporary staging facility for debris and construction wastes generated by the 9th Civil Engineering Squadron Operations Flight. Use has increased since 1998. The debris and construction wastes have contained predominantly asphalt and concrete debris mixed with soil. Until 2001, most of the staging activity was in the area north of the former landfill trench. As of October 2001, soil piles cover the majority of the site including the eastern trench and easternmost drainage. Portions of the western trenches have remained open. The majority of the debris placed in the southern Site 24 area originated from an approximate 250,000-cubic-yard road removal project on another part of Beale AFB. Investigations that will characterize the impact from these recent land management practices will be performed under the Beale AFB Environmental Compliance Program. Corrective actions will be implemented for Site 24 in the future, but they are not relevant to the historic use of Site 24 and the disposal trench NFRAP discussion.

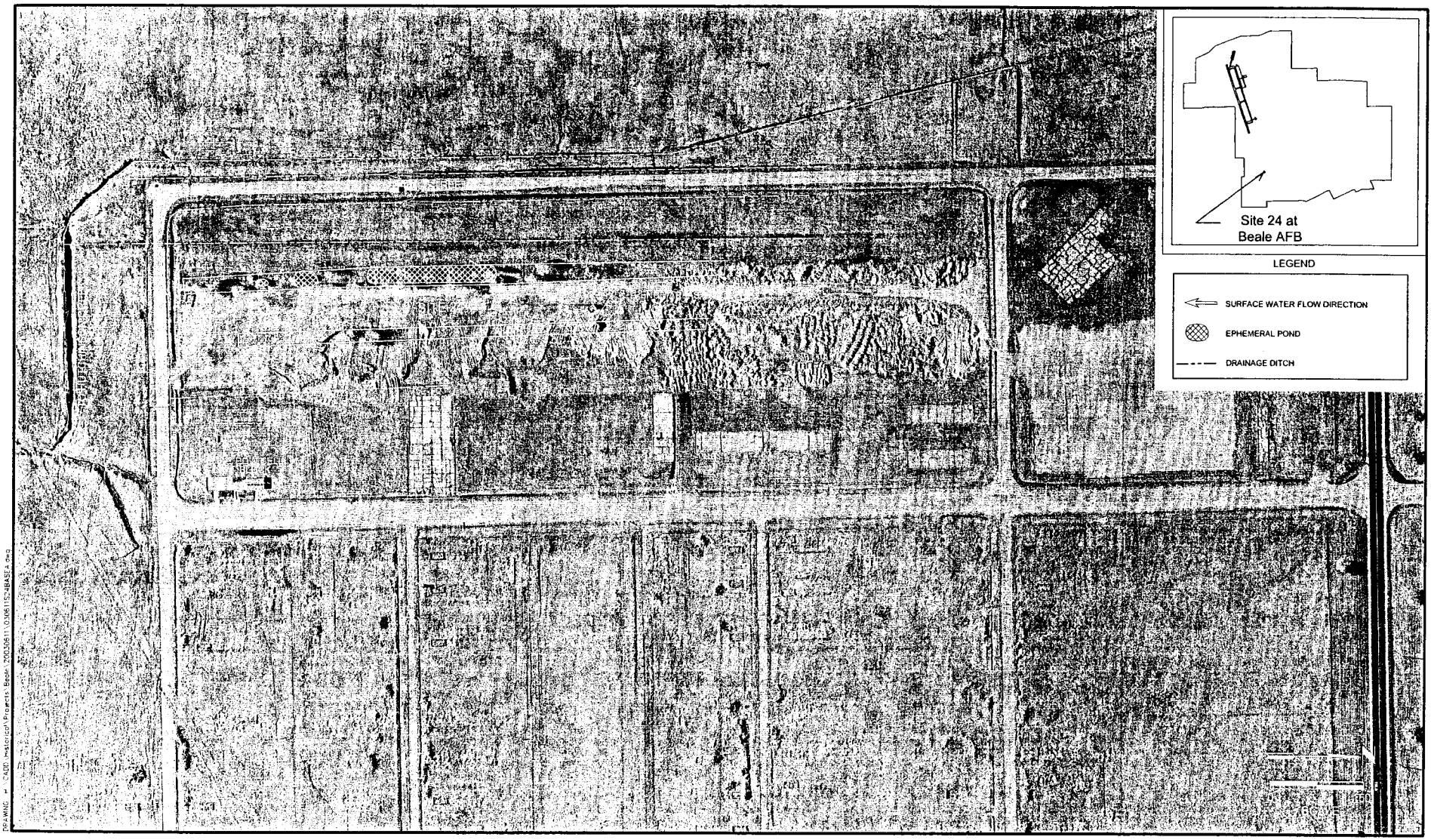

Figure 1-1
1999 Aerial Photograph of Site 24
Beale AFB

A summary of previous investigations at Site 24 is provided in Table 1-1; Section 2.0 presents results of investigations. The field summary report (FSR) for the 2001–2002 effort is included as Appendix A.

Table 1-1. Previous Investigations at Site 24

Contractor, Year	Scope of Investigation	Key Findings
CH2M HILL, 1988	• Records search performed to determine the location and operation history of the landfill.	• Interviews were conducted with base personnel who stated that general refuse was disposed of in the trenches, and that it was common to burn the trenches for days at a time (CH2M HILL, 1991).
Law Environmental, Inc., 1994	• Aerial photographic review and records search performed. • Site characterization/remedial investigation performed. • Solid waste assessment test report submitted. • Risk assessment performed.	• Benzene (540 ppbv), TCE (30 ppbv), and TPH (31,000 ppbv) detected in soil gas. • 2,3,7,8-TCDD detected in soil at 0.008 ng/g. • 2,3,7,8-TCDF detected in soil at 0.0056 ng/g. • TPH-D detected in soil up to 23 mg/kg. • Risk assessment identified COCs but stated that they do not pose a significant risk to human receptors; ecological receptors have potential to be exposed.
CH2M HILL, 1999	• Two soil borings drilled; HydroPunch® groundwater sample collected from each boring at the water table. • Monitoring well 24C001MW installed west of F Street.	• VOCs were not detected in HydroPunch® groundwater samples. • Trace TCE concentrations (0.2 µg/L [F]) detected below reporting limit in January 2000 24C001MW groundwater sample.
CH2M HILL, 1999–2002	• Annual groundwater monitoring.	• Trace TCE concentrations (0.87 µg/L [F]) detected below reporting limit in February 2002 24C001MW groundwater sample.

COC = contaminant of concern
F = analyte positively identified but concentration estimated below the reporting limit
mg/kg = milligrams per kilogram
ng/g = nanograms per gram
ppbv = parts per billion by volume
TCDD = tetrachlorodibenzo-p-dioxin
TCDF = tetrachlorodibenzo-p-furan
TCE = trichloroethene
TPH = total petroleum hydrocarbons
TPH-D = total petroleum hydrocarbons as diesel
VOC = volatile organic compound
µg/L = micrograms per liter

1.2.2 History of Releases

Site 24 was utilized as a landfill for household debris, construction rubble, and possibly unauthorized waste disposal for other areas of Beale AFB from the 1960s through the early 1970s. The types of constituents that may be found in household debris and construction rubble are the constituents likely to be detected at Site 24. However, any constituents potentially released in the unauthorized waste disposal could be associated with other Beale AFB operations. No liner or leachate collection system is known to have been used at Site 24. Volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), fuels, metals, dioxins, and furans have all been detected in environmental samples collected at the site.

1.2.3 Enforcement Activities

No enforcement activities have been associated with Site 24.

1.3 Scope and Role of Response Action

This decision document addresses the soil and groundwater conditions at Site 24. No further response actions are planned for Site 24 under the ERP. Further characterization and corrective measures regarding the debris and construction wastes will be performed under the Environmental Compliance Program of the Beale AFB Environmental Flight. Waste disposal occurring between 1994 and the present is not within the scope of the ERP. The ERP was established to characterize and remediate sites where contamination originated prior to 1984. In this case, the ERP is responsible for potential contamination within and near the former disposal trenches only; the trenches are the subject of this NFRAP decision document.

1.4 Financial Responsibility

In accordance with California Health and Safety Code Section 25356.1, the Department of Toxic Substances Control sets forth the following nonbinding preliminary allocation of responsibility for Site 24: Beale AFB – 100 percent.